

To Cite:

Ikhtiyar S, Hasan H, Layka Z. The first record of the species *Octophialucium indicum* Kramp, 1958 in the Syrian waters of the city of Lattakia. *Species*, 2022, 23(72), 509-513

Author Affiliation:

¹Professor in marine Biology Department – High Institute of Marine Research – Tishreen University, Lattakia, Syria; Email:

s.ekhtiyar@yahoo.com

²Associated Professor in the department of Physiology at the Veterinary College in Hama University, Syria; Email: hassanhasan15@yahoo.fr

³Student in Marine Biology Department – High Institute of Marine Research – Tishreen University, Lattakia- Syria. Email:

zeinablayka@gmail.com

Peer-Review History

Received: 31 July 2022

Reviewed & Revised: 05/August/2022 to 03/October/2022

Accepted: 06 October 2022

Published: 09 October 2022

Peer-Review Model

External peer-review was done through double-blind method.



© The Author(s) 2022. Open Access. This article is licensed under a [Creative Commons Attribution License 4.0 \(CC BY 4.0\)](http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.

The first record of the species *Octophialucium indicum* Kramp, 1958 in the Syrian waters of the city of Lattakia

Samar Ikhtiyar¹, Hassan Hasan², Zeinab Layka³

ABSTRACT

For the first time record of *Octophialucium indicum* Kramp, 1958 in the Syrian coastal waters of the city of Lattakia, between Ibn Hani port and the West of the High Institute of Marine Research, occupied during November 2021. Species probably arrived in the Mediterranean Sea with ballast waters and currents from the Red sea by the Suez Canal and by shipping. In this study, we explain one of jellyfish *Octophialucium indicum*, which belongs to the family of Malagazziidae and the order Leptothecata and this is the first record for the species in the Syrian water. This provides a clearer understanding of the reality of the jelly planktons and their distribution in the Syrian water.

Keywords: Syrian waters, jellyfish, *Octophialucium indicum*, Marine Research, jelly planktons.

1. INTRODUCTION

The phylum Cnidaria is described as an aqua predatory invertebrates in general, their shapes, sizes and ways of life vary. They are either benthic, wanderer or they may be single or colonial (Mills, 2001; Purcell et al., 2007; Boero et al., 2008). It combines Jellyfish form the biggest part of the giant jelly plankton. Water forms the greatest part of its body, and it spreads internationally (Browne & Kingsford, 2005). Jellyfish forms an important part of marine food chains and its role can vary according to species, age stages, predators and nutrients (feeders) (Peterson, 2000).

The phylum Cnidaria combines 10,105 species, divided into five classes: Hydrozoa which is also divided into seven orders, like Leptomedusae, which is known as Lptotheccata, Lptotheccata members are distinguished by a wide vellum and simple round mouth with the absence of manubrium. Gonads spread on almost the whole radial channels, tentacles are long; smooth and hollow hanging down from the margin of the umbrella, and are the same number of the radial canals (Boillone et al., 2004).

This order contains about 2,000 species. (Maronna.M.M. et al., 2016), and divided into nine families (Schuchert, 2017) which Malagazziidae is one of them, the member of this family have small manubrium with 4-8 radial canals and sometimes the number up to 12 canals. The gastric and peduncle are

absent, with ad axial excretory papillae. The rudimentary marginal bulbs aren't existed, and the closed statocysts without ocelli and cirri. This family is described by (Bouillon, 1984) from Leptomedusae order and it contains four genus (Malagazzia Bouillon, 1984; Octocanna Haeckel, 1879; Octophialicum Kramp, 1955; Tetracanna Goy, 1979; Bouillon et al., 2006). The genus Octophialicum was described by Karmp, 1955, which is in a belly shape with a diameter of 15mm, lateral thin walls, the velum is narrow about 1/10 of radius. The member contains 8 short gonads sausage-shaped located only on the radial canals without reaching the circular canal. The mouth usually has 8 lips. This genus combines nine species, Octophialicum indicum, one of them appeared in the study area.

In this study, we explain one of jellyfish Octophialicum indicum, which belongs to the family of Malagazziidae and the order Leptotheacata and this is the first record for the species in the Syrian water. This provides a clearer understanding of the reality of the jelly planktons and their distribution in the Syrian water.

2. MATERIAL AND METHODS

Sampling area:

The study was done in Ibn Hani, located about 10 kms North of Lattakia between Ibn Hani port and the West of the High Institute of Marine Research. The area is directly into the sea, and far away from the direct sources of pollution except some tourist facilities which only open in the summer monthes, in addition to a small fishing and picnic port. In order to collect the samples, four stations were choosen, the stations are:

First station (St1): assemblage fishing boats area 500m from the coast opposite Mousa's Rivulet.

Seconds station (St2): located 2kms from the coast of Al-Mena Al-Baidaa.

Third station (St3): located across from the High Institute of Marine Research (Ibn Hani reserve), 500m from the coast.

The fourth station (St4): located across from the Blue Beach about (300-500) m from the coast.

Figure (1) shows the locations of the studied stations and their geographical distribution.



Figure 1: locations of the studied stations and their geographical distribution

Samples collecting

Sampling occupied during November 2021. The hydrological factors, temperature, Salinity, Turbidity, Conductivity, pH, Oxygine dissolved were measured by using pH /Cond340i. The specific composition samples were collected by planktonic net, type WP2 (opening mouth D 56 cm, length 176 cm, mesh size 350 μ m) according to the method adopted by UNESCO (UNEP, 1988; UNESCO, 1984) horizontal hauls for 15 minutes. And also by divers about 4-5m deep by direct collecting. The samples were saved in polyethelin cans with sea water and taken to the laboratory. A Nikon Coolpix camera 16 Mega pixel was used for underwater photography.

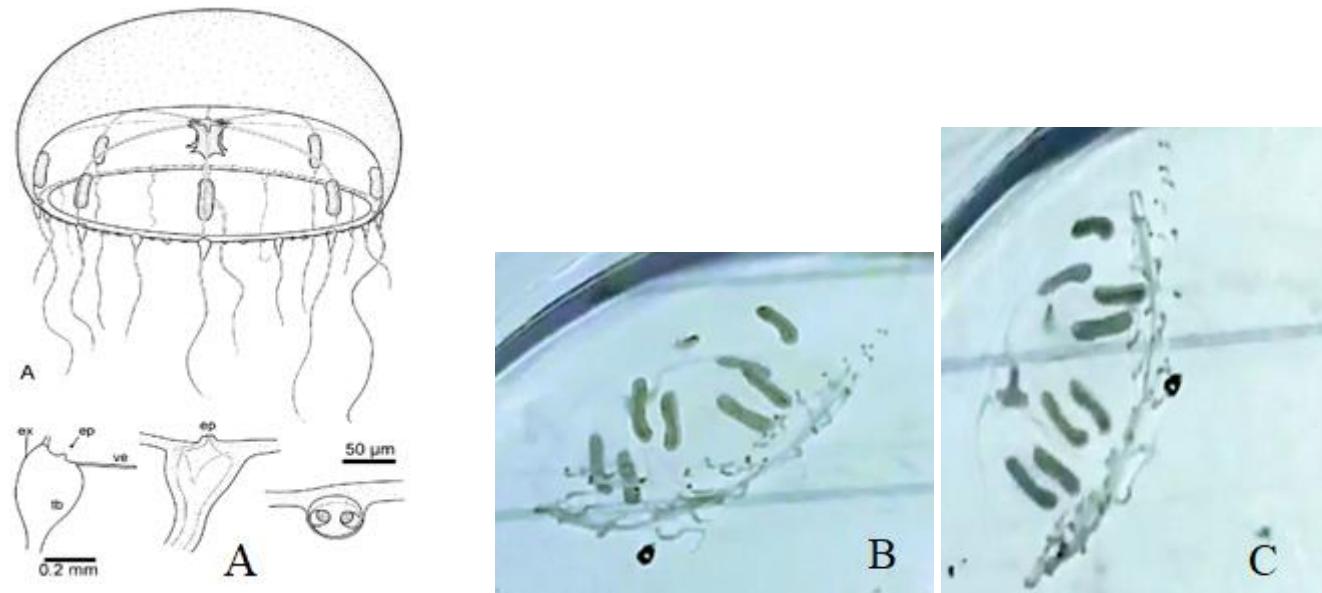
Studied individuals were isolated at the laboratory in petri plate and examinations were done by using magnifying glass and 12 Mega pixel camera photography. They were classified depending on The National Classification keys and by using characteristics of genus and species of Malagazziidae family. Some morphometric measures like the diameter and height of the umbrella were also taken. The defining gonads and their number, the number and characteristics of tentacles.

3. RESULTS & DISCUSSION

The morphological examinations were done for one of the jellyfish which was collected from the third station across from the High Institute of Marine Research. The temperature 21.9, Salinity 37.9, Turbidity 3.9, Conductivity 50, pH 8.11, Oxygine dissolved 7.2, with total abundance of zooplankton 12088.84 ind\m³. After the microscope examination and 12 Mega pixel camera photography, it was clear that this jellyfish belongs to *Octophialucium indicum* (Kramp, 1958) species.

Classification position

Hydrozoa (Class), Hydrodolina (Subclass), Leptothecata (Order), Malagazziidae (Family) *Octophialucium* (Genus), *Octophialucium indicum* (Species).



A: The general shape of *Octophialucium indicum* (Kramp, 1958) species, (Schuchert, 2017).

B: A photograph using 12 Mega pixel camera clearing the gonads and tentacles position.

C: A photograph of Manubrium.

The description of the species

The body is transparent belly with 15mm (5-15mm) diameter. The bell is flatter than hemisphere. The edge of the bell is somehow curved. The lateral walls are thin and relatively straight, the apical is jelly thick (1\2 or more of total height). The velum is narrow, about 1\10 of radius, tentacles are short, the cross section is in the shape of a star with eight points, 8 lips more or less meander, eight radial canals, short gonads sausage shaped along the distal fourth of radial canals but not reaching the circular canal, eight perradial tentacles and 0-8 additional tentacles between perradial tentacles. Therefore, when they are completely grown, usually 16 tentacles between each pair of tentacles 3 rudimentary small bulbs without tentacles. All bulbs with very short conical excretory papilla, which appear in subumbrella, are difficult to observe. Bulbs without abaxial spurs closed oval statocysts along the circular canal, 32 or more, small, with 2 (sometimes 1 or 3) colourless tissues.

When comparing this species with original *Octophialucium* species in the Atlantic Ocean and Mediterranean (Kramp, 1955), they are very similar and they only differ in the shape and position of gonads. There are 11 acceptable species of *Octophialucium* (Schuchert, 2020). Some of these species were registered in the north western and the west and east of the Mediterranean and the Adriatic Sea *O.funerarium* (Quoy and Gaimard, 1827; Bouillon et al., 2004; Gili et al., 1998). *Octophialucium indicum* is considered the only species which is registered of Malagazziidae family Leptothecata order in the Syrian regional water about 3-5 m opposite Lattakia and it is expected that it entered the east Mediterranean from Suez channel through Lessepsian migration as it was recorded in Gulf of Aqaba in the Red sea (Schmidt, 1973; Gravili et al., 2012). As well known, other species of this order were registered in the Syrian regional water in the previous studies but they belong to other families. *Aequorea forskea* belongs to

Aequoreidae family, and species *Mitrocoma annae* Haeckel, 1864 belongs to Mitrocomidae family. As for the species of Campanulinidae family, three species registered belong to this family *Phialidium hemisphaericum* (Linnaeus, 1767) and *Pseudoclytia pentata* species and finally *Clytia noliformis* species. *Phialella quadrata* species belong to Phialellidae family (Mamish, 2021; Ibraheem, 2018).

Distribution and spread

The species spreads in the tropical areas between India and the west of Pacific ocean from Madagascar to Tahiti and New Zealand (Kramp, 1965) and the China Sea (2018) and the Atlantic Ocean, northwest of the Persian Gulf (coast of Bahrakan) (Soltani, T. et al., 2014), the Red sea Aqaba Gulf. It was first recorded in the Syrian water in this study.

4. CONCLUSION

Recording *Octophialucium indicum* (Kramp, 1958) species in water of Lattakia presents additional information about fauna Jelly-plankton and its geographical distribution. It is also an induction that there are lots of other existing species in the Syrian water and they were only recorded in this study. Therefore, studies related to this group of marine creatures must be followed up in order to document their existence, distribution and necessary studies.

Acknowledgements:

The author of this article would like to thank Tishreen University, Lattakia, Syria, and the High Institute of Marine Research, Lattakia, Syria. Mr. Nouh Abbas for his effort. Sincere thanks to Dr. Hassan Hasan and Prof. Samar Ikhtiyar and Prof Adeeb zeini for reading the article and giving their valuable feedback.

Ethical approval

Octophialucium indicum Kramp, 1958 from the Syrian coastal waters of the city of Lattakia, between Ibn Hani port was observed and recorded in the study. The ethical guidelines are followed in the study for species observation & identification.

Funding

This study has not received any external funding.

Conflicts of interests

The authors declare that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

REFERENCES AND NOTES

1. Boullion, J.; Medel, M.D.; Pages, F.; Gili, J. M.; Boero, F.; Grauili, C. (2004)." Fauna of the Mediterranean Hydrozoa." *Scientia Marine* 68(2), 454p.
2. Boero, F. (2013). Review of jellyfish blooms in the Mediterranean and Black Sea. Rome. FAO Fisheries Reports, 92, pp 64. Available: <http://www.vliz.be/imis/imis.php?module=ref&refid=226251>. Accessed 2014 January 11.
3. Broz, L & Pauly.D. (2012). "Jellyfish population in the Mediterranean Sea." *ACTA ADRIATICA*, 53 (2), 211-230.
4. Chenguang, W, Zhenzu, XU, Donghui, GUO, Jiaqi, H, Mao1.L. (2018). "Taxonomic notes on Hydroidomedusae (Cnidaria) from the South China Sea V: Families Laodiceidae, Lovenellidae, Malagazziidae, and Mitrocomidae (Leptomedusae)." *Acta Oceanol. Sin.*, Vol. 37, No. 10, P. 104-111.
5. Daly, M. Brugler, R.M., Cartwright,P., Collins,G.A., Dawson, M.N., Fautin, G. (2007)."The phylum Cnidaria: A review of phylogenetic patterns and diversity 300 years after Linnaeus." *Zootaxa* 1668, 127-182.
6. Gürlek.M; Yağlıoğlu. D; Ergüden. D; Turan. C. (2013)." A new jellyfish species in the Turkish coastal waters- *Aequorea forskalea* péron & Lesueur, 1810 (Cnidaria: Hydrozoa)". *J. Black Sea/Mediterranean Environment*. Vol. 19, No. 3, 380-384.
7. Germer, T & Hfmdgen, M. (1978)."The Biology of Colonial Hydroids. II. The Morphology and Ultrastructure of the Medusa of *Eirene viridula* (Thecata Leptomedusa: Campanulinidae)." *Marine Biology* 50, 81-95.

8. Kramp, P.L. (1968). "The Hydromedusae of the Pacific and Indian Oceans." Sections II and III, A.F. Host & Son, Copenhagen. 200 p.
9. Kramp, P.L. (1956). "Medusae of the Iranian Gulf." Medd. F. Dansk nat. Foren, Bd. 118: 235-242.
10. Maronna, M. M. et al. (2016). "Towards a phylogenetic classification of Leptothecata (Cnidaria, Hydrozoa)." *Sci. Rep.* 6, 18075; doi: 10.1038/srep18075
11. Malati P. Rangnekar & D. G. Ruparel (1955). "RECORDS of the INDIAN MUSEUM." A Journal of India D Zoology). Vol. 53, parts 3 & 4.
12. Milis, C. E. (2001). "Jellyfish blooms: are population increasing globally in response to changing ocean conditions." *Hydrobiologia* 451 (Dev. Hydrobiol. 155), 55-68.
13. Mamish, S., Durgham, H., Al-Masri, M.S. (2012). "First record of *Aequorea globosa* Eschscholtz, 1829 (Cnidaria: Hydrozoa) in the coast of Syria." *Mediterr Mar Sci*, 13(2), 259-261.
14. Peter Schuchert (2017). "Systematic notes on some leptomedusa species with a description of *Neotima galeai* n. Spec. (Hydrozoa, Cnidaria)." *Revue suisse de Zoologie* 124(2): 351-375.
15. 15-Schmidt H.E. (1973). "Die Hydromedusen (Hydrozoa: Coelenterata) des Roten Meeres und seiner angrenzenden Gebiete." *Meteor Forschungsergebnisse Reihe D – Biologie*, 15, 1-35.
16. J.-M. Gili; J. Bouillon; F. Pagès; A. Palanques; P. Puig & S. Heussner. (1998). "Origin and biogeography of the deep-water Mediterranean Hydromedusae including the description of two new species collected in submarine canyons of Northwestern Mediterranean." *SCI. MAR.*, 62 (1-2): 113-134.
17. Schuchert, P. (2013). "Aequorea forskalea. In: World Hydrozoa Database." <http://www.marienspecies.org/aphia.php?p=taxdetails&id=117270> accessed on 09-30.
18. Mamish.S; Dhargham. H; Ikhtiyar. S. (2021). "Study of biomarkers in marine napkins in the beach waters of Latakia." Thesis prepared for PhD in Marine Biology, University of Tentine, Higher Institute of Marine Research, 135 p.
19. Ibrahim. R; Dhargham. H; Ikhtiyar. S. (2018). "Contribution to the study of the qualitative and biochemical composition of blanket disks in the beach waters of Latakia." Thesis prepared for Master's Degree in Marine Biology, University of Tentine, Higher Institute of Marine Research, 128 pages. Marine Biology 50, 81-95.